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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

GRAYBILL, DAVID E

ART UNIT	PAPER NUMBER
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2822

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01/22/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/797,197

Applicant(s)

ITO, MASASHI

Examiner

David E. Graybill

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5,6 and 10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5,6 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10-31-7 has been entered.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 5, 6 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1 and 6 the scope of the language, "selected from a group of" is indefinite because "The word 'comprising' transitioning from the preamble to the body signals that the entire claim is presumptively open-ended." *Gillette Co. v. Energizer Holdings Inc.*, 405 F.3d 1367, 1371-73, 74 USPQ2d 1586, 1589-91 (Fed. Cir. 2005). MPEP 2173.05(h). Furthermore, "It is improper to use the term 'comprising' instead of 'consisting of.'" *Ex parte Dotter*, 12 USPQ 382 (Bd. App. 1931). MPEP 2111.03.

In the rejections *infra*, generally, reference labels are recited only for the first recitation of identical claim elements.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 5, 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art.

At paragraphs 48-54, applicant admits as prior art all of the claim limitations including wherein said first facet 3a provides a coating including a first layer 7a in physical contact with said light-modulating region and a second layer 7b in physical contact with said first layer and in at least

indirect physical contact with said first facet, said first layer having a first refractive index and a first thickness and a said second layer having a second refractive index and a second thickness; wherein said first material is made of material formed by and ion-assisted evaporation technique; and wherein said first facet provides a coating including a first layer in physical contact with said light-generating region and a second layer in physical contact with said first layer and in at least indirect physical contact with said first facet, said first layer having a first refractive index and said second layer having a second refractive index.

However, applicant does not appear to explicitly admit as prior art the second refractive index greater than the first refractive index and the second thickness less than the first thickness; said second layer is made of material selected from a group of titanium oxide and tantalum oxide; wherein the first layer is made of a material selected from a group of silicon nitride, silicon oxide, silicon oxi-nitride and aluminum oxide.

Nonetheless, applicant admits as prior art the first refractive index greater than the second refractive index and the second thickness greater than the first thickness, said first layer being made of material selected from a group of titanium oxide and tantalum oxide; wherein the second layer is made of a material selected from a group of silicon nitride, silicon oxide, silicon oxi-nitride and aluminum oxide. Moreover, as reasoned from well

established legal precedent, it would have been an obvious matter of design choice bounded by well known manufacturing constraints and ascertainable by routine experimentation merely reverse the arrangement of the first layer and the second layer of the admitted prior art because applicant has not disclosed that, in view of the admitted prior art, the arrangement is for a particular **unobvious** purpose, produces an unexpected result, or is otherwise critical. Moreover, it has been held that limitations directed to rearrangement of parts are prima facie obvious absent a disclosure that the limitations are for a particular **unobvious** purpose, produce an unexpected result, or are otherwise critical. In re Japikse 86 USPQ 70 (CCPA 1950); for example, reversal of parts was held to have been obvious. In re Gazda 104 USPQ 400 (CCPA 1955). "We agree with the board that, where desired, conversion of overlap from opposite sides of the plate to the same side would be a simple expedient of choice. This would be no more than an obvious reversal of arrangement and not patentable." In re Weber, 136 USPQ 442 (C.C.P.A. 1963). "The obvious reversal of parts employed by the accused device is necessarily included within the minimal equivalency to which even a patent granted on a small advance over a prior crowded art is entitled." *Sears, Roebuck & Co. et al. v. Jones et al.*, 135 USPQ 149. Moreover, "simple adjustment of spatial orientation" has been held to be obvious. *Colt Industries Operating Corp. v. Index Werke, K.G. et al.*, 217

USPQ 1176 (DC 1982). In addition, it would have been obvious to try this mere reversal of the layers of because such a reversal would have been an obvious known option and, "a person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense." KSR International Co. v. Teleflex Inc., 82 USPQ2d 1385 (U.S. 2007). See also, Pfizer Inc. v. Apotex Inc., 82 USPQ2d 1852 (Fed. Cir. 2007).

However, applicant's admitted art does not appear to explicitly disclose wherein a total thickness of said first layer and said second layer is less than a quarter of said predetermined wavelength.

Still, applicant's admitted prior art discloses that the first and second thickness and the total thickness of the first layer and the second layer are result effective variables. Therefore, it would have been obvious to try variations of the thickness result effective variables including the claimed variations because "a person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense." KSR International Co. v. Teleflex Inc., 82 USPQ2d 1385 (U.S. 2007). See also, Pfizer Inc. v. Apotex Inc., 82 USPQ2d 1852 (Fed. Cir. 2007). Moreover, as reasoned from well established legal

precedent, it would have been an obvious matter of design choice bounded by well known manufacturing constraints and ascertainable by routine experimentation and optimization to choose the particular claimed thickness limitations because applicant has not disclosed that, in view of the applied prior art, the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical. Indeed, it has been held that optimization of range limitations are prima facie obvious absent a disclosure that the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical. See MPEP 2144.05(II):

"Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. '[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.'" In re Aller, 220 F.2d 454, 105 USPQ 233, 235 (CCPA 1955). See also In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969), Merck & Co. Inc. v. Biocraft Laboratories Inc., 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989), and In re Kulling, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990). As set forth in MPEP 2144.05(III), "Applicant can rebut a prima facie case of obviousness based on overlapping ranges by showing the criticality of the claimed range.

'The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range.' In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP § 716.02 - § 716.02(g) for a discussion of criticality and unexpected results."

In addition, as reasoned from well established legal precedent, it would have been an obvious matter of design choice bounded by well known manufacturing constraints and ascertainable by routine experimentation and optimization to choose these particular thickness dimensions because applicant has not disclosed that, in view of the applied prior art, the dimensions are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical, and it appears prima facie that the process would possess utility using another dimension. Indeed, it has been held that mere dimensional limitations are prima facie obvious absent a disclosure that the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical. See, for example, In re Rose, 220 F.2d 459, 105 USPQ 237 (CCPA 1955); In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); Gardner v. TEC Systems, Inc., 725 F.2d 1338,

220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984); In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

In the alternative, claims 1, 5, 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art as applied to claims 1, 5, 6 and 10 supra, and further in combination with Kaneko (JP04-299591).

Applicant's admitted prior art does not appear to explicitly disclose the second refractive index greater than the first refractive index, said second layer being made of material selected from a group of titanium oxide and tantalum oxide; wherein the first layer is made of a material selected from a group of silicon nitride, silicon oxide, silicon oxi-nitride and aluminum oxide.

Nonetheless, applicant admits as prior art the first refractive index greater than the second refractive index, said first layer being made of material selected from a group of titanium oxide and tantalum oxide; wherein the second layer is made of a material selected from a group of silicon nitride, silicon oxide, silicon oxi-nitride and aluminum oxide.

Furthermore, in the English description, drawings and abstracts, Kaneko discloses wherein a first facet "output side," provides a coating including a first layer 2 in physical contact with a light-generating region "laser" and a second layer 3 in physical contact with said first layer and in at least indirect physical contact with said first facet said first layer having a

first refractive index and said second layer having a second refractive index greater than said first refractive index, said second layer being made of material selected from a group of titanium oxide and tantalum oxide

"Although 2 used ZrO_2 [layer / 1st] in this working example, it does not restrict to this . . . TiO_2 . . . etc. are sufficient", and wherein the first layer is made of a material selected from a group of silicon nitride, silicon oxide, silicon oxi-nitride and aluminum oxide " Al_2O_3 , SiO_2 . . . are sufficient as the . . . two-layer eye 3".

Moreover, it would have been obvious to combine this disclosure of Kaneko with the disclosure of applicant's admitted prior art because, as disclosed by Kaneko, it would provide a durable device with good reproducibility such as refractive-index control and film thickness control.

In addition, applicant admits as prior art the first refractive index greater than the second refractive index, said first layer being made of material selected from a group of titanium oxide and tantalum oxide; wherein the second layer is made of a material selected from a group of silicon nitride, silicon oxide, silicon oxi-nitride and aluminum oxide. In addition, Kaneko discloses the mere reversal of this arrangement.

Moreover, as reasoned from well established legal precedent, it would have been an obvious matter of design choice bounded by well known manufacturing constraints and ascertainable by routine experimentation

merely reverse the arrangement of the first layer and the second layer of the admitted prior art as disclosed by Kaneko because applicant has not disclosed that, in view of the applied prior art, the arrangement is for a particular **unobvious** purpose, produces an unexpected result, or is otherwise critical. Moreover, it has been held that limitations directed to rearrangement of parts are prima facie obvious absent a disclosure that the limitations are for a particular **unobvious** purpose, produce an unexpected result, or are otherwise critical. In re Japikse 86 USPQ 70 (CCPA 1950); for example, reversal of parts was held to have been obvious. In re Gazda 104 USPQ 400 (CCPA 1955). "We agree with the board that, where desired, conversion of overlap from opposite sides of the plate to the same side would be a simple expedient of choice. This would be no more than an obvious reversal of arrangement and not patentable." In re Weber, 136 USPQ 442 (C.C.P.A. 1963). "The obvious reversal of parts employed by the accused device is necessarily included within the minimal equivalency to which even a patent granted on a small advance over a prior crowded art is entitled." Sears, Roebuck & Co. et al. v. Jones et al., 135 USPQ 149. Moreover, "simple adjustment of spatial orientation" has been held to be obvious. Colt Industries Operating Corp. v. Index Werke, K.G. et al., 217 USPQ 1176 (DC 1982).

Still further, Kaneko discloses that the first and second layer of applicant's admitted prior art and the first and second layer of Kaneko are alternatives and equivalents; therefore, as reasoned from well established legal precedent, it would have been obvious to substitute the first and second layer of Kaneko for the first and second layer of applicant's admitted prior art. See *In re May* (CCPA) 136 USPQ 208 (It is our opinion that the substitution of Wille's type seal for the cement of Hallauer in Figure 1 would be obvious to persons of ordinary skill in the art from the disclosures of these references, merely involving an obvious selection between known alternatives in the art and the application of routine technical skills.); *In re Cornish* (CCPA) 125 USPQ 413; *In re Soucy* (CCPA) 153 USPQ 816; *Sabel et al. v. The Wickes Corporation et al.* (DC SC) 175 USPQ 3; *Ex parte Seiko Koko Kabushiki Kaisha Co.* (BdPatApp&Int) 225 USPQ 1260; and *Ex parte Rachlin* (BdPatApp&Int) 151 USPQ 56. See also *Smith v. Hayashi*, 209 USPQ 754 (Bd. of Pat. Inter. 1980) (However, there was evidence that both phthalocyanine and selenium were known photoconductors in the art of electrophotography. "This, in our view, presents strong evidence of obviousness in substituting one for the other in an electrophotographic environment as a photoconductor." 209 USPQ at 759.). An express suggestion to substitute one equivalent component or process for another is not necessary to render such substitution obvious. *In re Fout*, 675 F.2d 297,

213 USPQ 532 (CCPA 1982). "It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) (citations omitted). "For example, where a claimed apparatus requiring Phillips head screws differs from a prior art apparatus describing the use of flathead screws, it might be hard to find motivation to substitute flathead screws with Phillips head screws to arrive at the claimed invention. However, the prior art would make it more than clear that Phillips head screws and flathead screws are viable alternatives serving the same purpose. Hence, the prior art would 'suggest' substitution of flathead screws for Phillips head screws albeit the prior art might not 'motivate' use of Phillips head screws in place of flathead screws. *Ex parte Jones*, 62 USPQ2d 1206 (BdPatApp&Int 2001). See also *In re Crockett*, 279 F.2d 274, 126 USPQ 186 (CCPA 1960); *Ex parte Quadranti*, 25 USPQ2d 1071 (Bd. Pat. App. & Inter. 1992).

However, applicant's admitted art and Kaneko do not appear to explicitly disclose the second thickness less than the first thickness wherein a total thickness of said first layer and said second layer is less than a quarter of said predetermined wavelength.

Still, both applicant's admitted prior art and Kaneko disclose that the first and second thickness and the total thickness of the first layer and the second layer are result effective variables. Therefore, it would have been obvious to try variations of the thickness result effective variables including the claimed variations because "a person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense." *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007). See also, *Pfizer Inc. v. Apotex Inc.*, 82 USPQ2d 1852 (Fed. Cir. 2007). Moreover, as reasoned from well established legal precedent, it would have been an obvious matter of design choice bounded by well known manufacturing constraints and ascertainable by routine experimentation and optimization to choose the particular claimed thickness limitations because applicant has not disclosed that, in view of the applied prior art, the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical. Indeed, it has been held that optimization of range limitations are prima facie obvious absent a disclosure that the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical. See MPEP 2144.05(II): "Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art

unless there is evidence indicating such concentration or temperature is critical. '[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.'" In re Aller, 220 F.2d 454, 105 USPQ 233, 235 (CCPA 1955). See also In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969), Merck & Co. Inc. v. Biocraft Laboratories Inc., 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989), and In re Kulling, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990). As set forth in MPEP 2144.05(III), "Applicant can rebut a prima facie case of obviousness based on overlapping ranges by showing the criticality of the claimed range. 'The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range.' In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP § 716.02 - § 716.02(g) for a discussion of criticality and unexpected results."

In addition, as reasoned from well established legal precedent, it would have been an obvious matter of design choice bounded by well known manufacturing constraints and ascertainable by routine experimentation and optimization to choose these particular thickness dimensions because

applicant has not disclosed that, in view of the applied prior art, the dimensions are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical, and it appears prima facie that the process would possess utility using another dimension. Indeed, it has been held that mere dimensional limitations are prima facie obvious absent a disclosure that the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical. See, for example, *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955); *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984); *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

Applicant's amendment and remarks filed 10-31-7 have been fully considered, are treated supra, and are further addressed infra.

Applicant asserts:

Independent claims 1 and 6 have been amended to recite that the second coating layer is thicker than the first coating layer.

This assertion is respectfully traversed because it is incorrect.

Also applicant alleges:

it is contended in the Office Action that it would have been obvious to switch the materials of the first and second layers of the APA to yield the invention of claims 2 and 6.

This allegation is respectfully traversed because it is not contended in the Office Action that it would have been obvious to switch the materials of

the first and second layers of the APA. Rather, it is maintained that it would have been obvious to reverse the arrangement of the first layer and the second layer.

In addition, applicant contends:

. . . one skilled in the art would not have a reason to modify the APA to yield the claimed invention by switching the order of the materials in its AR film to the recited lower/higher refractive index.

This contention is respectfully traversed because sufficient rationale is provided to support the conclusion of obviousness.

Applicant further alleges:

Looking at it another way, the APA teaches away from the claimed order of materials.

This allegation is respectfully traversed because applicant merely alleges that applicant's admitted prior art teaches away from the "claimed order of materials" but does not further elaborate. In fact, the admitted prior art does not teach away from the claimed invention.

Also, applicant argues:

. . . the prior art discussed in the application does not teach or even suggest that the total thickness of an antireflective (A_R) film is less than a quarter of the emission wavelength of the light generated by the device, and that the second film is thinner than the first film . . .

This argument is respectfully deemed unpersuasive because the prior art is not relied on to teach or suggest that the total thickness of an antireflective (AR) film is less than a quarter of the emission wavelength of the light generated by the device and that the second film is thinner than

the first film, nor is such a teaching or suggestion necessary to support the conclusion of obviousness. See *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007).

Also, applicant asserts:

Since the APA teaches the exact opposite of the claimed order of film thicknesses, one skilled in the art would not have had a reason to modify the APA to yield the invention of amended claims 2 and 6.

This assertion is respectfully deemed unpersuasive because it is precisely the admitted prior art disclosure of "the exact opposite" of the claimed invention that supports the conclusion of obviousness based on the legal precedence rationale that mere reversal of elements is obvious.

Applicant additionally alleges:

Kaneko explicitly teaches that, whether a combination of higher/lower refractive index or lower/higher refractive index films are used, it is necessary for the total thickness to be equal to a quarter of the emission wavelength, to result in the desired anti-reflectivity. This thickness requirement is disadvantageous because the reflectivity of such a film drastically changes when the thickness of the second material varies only a few nanometers. In contrast, as illustrated in the table at paragraph 0055 of the present application, the film of the present invention is much thinner than a quarter of the emission wavelength, which places less stress on the facet of the semiconductor material, enhancing the long-term reliability of the device. Thus, one skilled in the art would have no reason to combine the APA and Kaneko to yield the invention of amended claims 2 and 6, because Kaneko teaches away from several features of these claims.

These allegations are respectfully traversed because, at the most, Kaneko merely discloses examples and preferred embodiments, and disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. In re Susi,

169 USPQ 423 (CCPA 1971). "A known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use." *In re Gurley*, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994). A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments. *Merck & Co. v. Biocraft Laboratories*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989). To further clarify, a prior art opinion that a claimed invention is not preferred for a particular limited purpose, does not preclude utility of the invention for that or another purpose, or even preferability of the invention for another purpose. Moreover, even a teaching away from a claimed invention does not necessarily render the invention patentable. See *Celeritas Technologies Ltd. v. Rockwell International Corp.*, 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir. 1998), where the court held that the prior art anticipated the claims even though it taught away from the claimed invention. "The fact that a modem with a single carrier data signal is shown to be less than optimal does not vitiate the fact that it is disclosed." Similarly, in *In re Geisler*, 116 F.3d 1465, 1471, 43 USPQ2d 1362, 1366 (Fed. Cir. 1997) applicant argued that the prior art taught away from use of a protective layer for a reflective article having a thickness within the claimed range of "50 to 100 Angstroms." Specifically, a patent to Zehender,

which was relied upon to reject applicant's claim, included a statement that the thickness of the protective layer "should be not less than about [100 Angstroms]." The court held that the patent did not teach away from the claimed invention. "Zehender suggests that there are benefits to be derived from keeping the protective layer as thin as possible, consistent with achieving adequate protection. A thinner coating reduces light absorption and minimizes manufacturing time and expense. Thus, while Zehender expresses a preference for a thicker protective layer of 200-300 Angstroms, at the same time it provides the motivation for one of ordinary skill in the art to focus on thickness levels at the bottom of Zehender's suitable range - about 100 Angstroms - and to explore thickness levels below that range. The statement in Zehender that [i]n general, the thickness of the protective layer should be not less than about [100 Angstroms] falls far short of the kind of teaching that would discourage one of skill in the art from fabricating a protective layer of 100 Angstroms or less. [W]e are therefore not convinced that there was a sufficient teaching away in the art to overcome [the] strong case of obviousness made out by Zehender." See MPEP 2144.05II and MPEP 2145, paragraph X.D..

Further, applicant speculates:

If one were to combine these two references, the result would probably be an AR film having a thickness equal to a quarter of the emission wavelength (not less than a quarter, as claimed), and two films made of different materials than those claimed.

This speculation is respectfully traversed because the combination of applied prior art does not result in a an AR film having a thickness equal to a quarter of the emission wavelength and two films made of different materials than those claimed.

For information on the status of this application applicant should check PAIR:

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alternatively, applicant may contact the File Information Unit at (703) 308-2733. Telephone status inquiries should not be directed to the examiner. See MPEP 1730VIC, MPEP 203.08 and MPEP 102.

Any other telephone inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Graybill at (571) 272-1930. Regular office hours: Monday through Friday, 8:30 a.m. to 6:00 p.m.
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